

REMARKS / ARGUMENTS

Claims 13-20 remain pending in this application. New claims 19-20 have been added.

Specification

The specification has been amended to overcome the Examiner's objections. However, it is believed that no amendment is needed to the recitation of "iron nitrate nonahydrate". This refers to the chemical formula $\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}$ and is a well-known term of art. The Examiner is hereby invited to contact the undersigned with any questions.

Drawings

The specification has been amended to be consistent with Figs. 9 and 10 of the drawings. No amendment to the drawings is believed to be necessary. In addition, no new matter has been added.

Claim Objections

The claims have been amended to overcome the Examiner's objections.

35 U.S.C. 112

Claims 13 and 15-18 have been amended to overcome the Examiner's rejection under this section.

35 U.S.C. §§102 and 103

Claims 13-18 stand rejected under 35 U.S.C. §102(b) as being anticipated by JP 08-238418. Claim 15 stands rejected under 35 U.S.C. §103(a) as being unpatentable over JP 08-238418 in view of JP 61-003040. These rejections are traversed as follows.

The present invention is directed to a process and apparatus for decomposition of fluorine compounds including SF₆ and NF₃ (see specification, page 1, lines 4-6). The claims have been amended to specifically recite the decomposing of fluorine compounds including SF₆ or NF₃.

On the other hand, JP 08-238418 discloses an apparatus for decomposing a chlorofluorocarbon (See Abstract). This reference is silent with respect to SF₆ or NF₃. This difference is substantial in that the life of a fluorine compound containing fluorine and chlorine is much shorter than a life of a PFC which contains only fluorine. Therefore, such a fluorine compound as mentioned above and discussed in this reference is a compound that decomposes far more easily than a PFC. As such, the decomposing catalyst for such fluorine compounds are not necessarily effective for other halogen compounds (such as SF₆ or NF₃) due to the different rates of decomposition. Therefore, it is submitted that mere substitution of catalysts as

suggested by the Examiner cannot be deemed inherent by considering JP 08-238418.

The deficiencies in JP 08-238418 are not overcome by resort to JP 61-003040. JP 61-003040 describes a method of detecting deterioration of SF_6 by measuring variations in electrical resistance of a gas-responsive film, in which SF_6 is decomposed into SO_2F_2 by arcing. Then, this decomposed gas is defused into the gas-responsive film to allow the film to vary its resistance. According to this method, the SF_6 is directly decomposed into SO_2F_2 by thermal decomposition at a very high temperature. This is completely different from the present invention using a catalyst. This reference is also silent as to the means for adding water and oxygen to the gas supplied to the reactor. Since the reference is silent as to any catalyst, it is difficult to derive any proper compounds and associated decomposition processes as in the present invention.

In summary, JP 08-238418 does not disclose decomposing of SF_6 or NF_3 gas. The deficiencies in JP 08-238418 are not overcome by resort to any of the remaining references. As such, it is submitted that the pending claims patentably define the present invention over the cited art.

The Examiner's attention is directed to Figs. 1 and 2 which show the harmful component removing catalyst 3 and the results of when such catalyst is charged and is not charged. The result can be seen in Fig. 2 to evidence that the use of the

harmful component removing catalyst 3 provides significant advantages in decomposing the specified gaseous substances.


The Examiner has objected to the use of the word "charged", but Applicants submit that the meaning of this term would be easily understood to one of ordinary skill in the art in light of the specification. If alternate language is deemed more suitable by the Examiner, the Examiner is hereby requested to contact the undersigned by telephone to discuss.

Conclusion

In view of the foregoing, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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